

## PAPERS BY BELL LABORATORIES AUTHORS

### PHYSICAL SCIENCES

**Absolute Sense and Model for the Piezoelectric and Pyroelectric Coefficients in  $\text{Ba}(\text{NO}_3)_2 \cdot \text{H}_2\text{O}$  and  $\text{Cs}_2\text{S}_2\text{O}_8$ .** R. Liminga, S. C. Abrahams, and J. L. Bernstein, *J Appl Crystallogr*, 13, No. 6 (December 1980), pp 516-26.

**On the Anomalies in Density, Young's Modulus, and Glass Temperature of Pd-Si Glasses.** H. S. Chen, J. T. Krause, K. Shirakawa, and T. Masumoto, *J Noncrystal Sol*, 41 (1980), pp 79-88.

**Conductivity Profiling of GaAs/(AlGa)As Multilayer Structures.** J. L. Zilko and P. J. Anthony, *J Electrochem Soc*, 128, No. 4 (April 1981), pp 871-4.

**Directional Memory Effects in Inelastic Photoelectron Scattering.** D. P. Woodruff et al., *Surf Sci*, 95 (1980), pp 403-10.

**The Disappearance of High Temperature Superconductivity in  $\text{BaPb}_{1-x}\text{Bi}_x\text{O}_3$  Perovskite.** C. E. Methfessel, G. R. Stewart, and B. T. Matthias, *Proc Natl Acad Sci*, 77, No. 11 (1980), pp 6307-8.

**Effect of Metalloid Elements on Strength and Thermal Stability of Iron Based Glasses.** M. Naka, T. Masumoto, and H. S. Chen, *J Phys (Paris)*, C8, No. 41 (1980), pp 839-42.

**Efficient Transverse Deflection of Neutral Atomic Beams Using Spontaneous Resonance—Radiation Pressure.** J. E. Bjorkholm, R. R. Freeman, and D. B. Pearson, *Phys Rev A*, 23 (February 1981), pp 491-7.

**Electric Field Depinning of Charge-Density Waves in  $\text{NbSe}_3$ .** R. M. Fleming, *Phys Rev B*, 22, No. 12 (December 15, 1980), pp 5606-12.

**EXAFS Studies of Glassy Metallic Alloys.** H. S. Chen, B. K. Teo, and R. Wang, *J Phys (Paris)*, C8, No. 41 (1980), pp 254-62.

**Neutron Activation Study of a Gettering Treatment for Czochralski Silicon Substrates.** L. E. Katz, P. F. Schmidt, and C. W. Pearce, *J Electrochem Soc*, 128, No. 3 (March 1981), pp 620-4.

**Neutron Activation Analysis Study of the Sources of Transition Group Metal Contamination in the Silicon Device Manufacturing Process.** P. F. Schmidt and C. W. Pearce, *J Electrochem Soc*, 128, No. 3 (March 1981), pp 630-7.

**Opto-Acoustic Study of Weak Optical Absorption of Liquid Methane.** C. K. N. Patel, E. T. Nelson, and R. J. Kerl, *Nature*, 286 (July 1980), pp 368-70.

**Order-Disorder Phase Transitions in 9-Hydroxyphenalenone.** S. C. Abrahams et al., *J. Chem Phys*, 74, No. 1 (January 1, 1981), pp 644-6.

**Picosecond Photoconductivity in Radiation Damaged Silicon-on-Sapphire Films.** P. R. Smith et al., *Appl Phys Lett*, 38, No. 1 (January 1, 1981), pp 47-50.

**Pressure Induced Structural Transitions in Partially Ionic Semiconductors: A Self-Consistent Pseudopotential Approach to  $\text{ZnSe}$ .** W. Andreoni and K. Maschke, *Phys Rev B*, 22 (November 15, 1980), pp 4816-24.

**Reactive Ion Etching of GaAs and InP Using  $\text{CCl}_2\text{F}_2/\text{Ar}/\text{O}_2$ .** E. L. Hu and R. E. Howard, *Appl Phys Lett*, 37 (December 1, 1980), pp 1022-4.

**Relativistic Tight-Binding Calculation of Core-Valence Transitions in Pt and Au.** L. F. Mattheiss and R. E. Dietz, *Phys Rev B*, 22 (August 15, 1980), pp 1663-76.

**Relaxation of Optically Pumped Electron Spins Through a Virtual Photon: Experimental Evidence in Heavily Zn-Doped GaAs.** D. A. Kleinman and R. C. Miller, *Phys Rev Lett*, 46, No. 1 (January 1981), pp 68-71.

**Silver-Molecule Separation Dependence of Surface Enhanced Raman Scattering.** C. A. Murray, D. L. Allara, and M. Rhinewine, *Phys Rev Lett*, 46, No. 1 (January 1981), pp 57-61.

**Spin-Glass-Paramagnetic Phase Boundary in Amorphous Magnetic Alloys.** K. Moorjani et al., *J Phys (Paris)*, C8, No. 41 (1980), pp 718-22.

**Strain-Induced Softening of Certain Eutectics.** H. Suhl, B. T. Matthias, and S. Hecker, *Phys Rev Lett*, 45 (1980), pp 1707-8.

**Structural Phase Transitions: Defects and Dynamics.** P. A. Fleury, *J Phys (Paris)*, C6, No. 7 (July 1980), pp C6-419-C6-24.

**Superconductivity and Magnetic Ordering in the Pseudoternary  $\text{HO}(\text{Ir}_x\text{Rh}_{1-x})_2\text{B}_4$ .** B. T. Mstthiss, H. C. Ku, and F. Acker, *Phys Lett*, 76A (1980), pp 399-402.

## MATHEMATICS

**Continuity of Generalized Semi-Markov Processes.** W. Whitt, *Msth Op Res*, 5 (November 1980), pp 494-501.

**The Effect of Variability in the GI/G/s Queue.** W. Whitt, *J Appl Probsb*, 17 (December 1980), pp 1062-71.

**Error-Correcting Codes and Cryptography.** N. J. A. Sloane, in *The Mothematicol Gordner*, edited by D. A. Klarner, Boston: Prindle, Weber, and Schmidt, 1981, pp 346-82.

**Imbedding Smooth Involutions In Trivial Bundles.** K. J. Prevot, *Pscific J. Msth*, 89, No. 1 (July 1980), pp 163-8.

**The Infinitesimal Group of the Navier-Stokes Equations.** S. P. Lloyd, *Acta Mechsnics*, 38, Nos. 1, 2 (1981), pp 85-98.

**Statistical Computing: History and Trends.** J. M. Chambers, *Am Statist*, 34 (November 1980), pp 238-43.

## COMPUTING

**Application of Computers to Maintenance of Telecommunication Networks.** F. B. Six, *Seminor on Maintenance of Telecommunication Networks, October 6-15, 1980*, Geneva, Switzerland, Union Int. Telecommunications, 1981, pp 285-320.

**Consistency of Redundant Data Bases in a Weakly Coupled Distributed Computer Conferencing System.** B. I. Strom, *Proc Fifth Berkeley Workshop on Distributed Data Management and Computer Networks*, February 3, 1981, pp 143-53.

**Constructing Call-by-Value Continuation Semantics.** R. Sethi and A. Tang, *J ACM*, 27, No. 3 (July 1980), pp 580-97.

**The Control of Store and Forward Congestion in Packet Switched Networks.** E. F. Wunderlich, L. Ksufman, and B. Gopinsth, *Proceedings of the Fifth International Conference on Computer Simulation*, Amsterdam: North-Holland, 1980, pp 851-6.

**The Edge-Flag Algorithm—A Fill Method for Raster Scan Displays.** B. D. Ackland and N. Weste, *IEEE Trsns Comput*, C-30, No. 1 (January 1981), pp 41-7.

**Efficient Computation of Expressions With Common Subexpression.** B. Prsbhals and R. Sethi, *J ACM*, 27, No. 1 (January 1980), pp 146-63.

**Variations on the Common Subexpression Problem.** P. J. Downey, R. Sethi, and R. E. Tarjan, *J ACM*, 27, No. 4 (October 1980), pp 758-71.

## ENGINEERING

**Bell's Echo-Killer Chip.** D. L. Duttweiler, *IEEE Spectrum*, 17 (October 1980), pp 34-7.

**Coupling Efficiency of Optics in Single-Mode Fiber Devices.** R. E. Wsgner and W. J. Tomlinsoo, *J Opt Soc Am*, 70 (December 1980), p 1596.

**The Determination of Ruthinium in Plating Solutions and Electroplated Deposits.** T. Y. Kometani and L. D. Blitzer, *Plst Surf Finish* (October 1980), pp 57-60.

**Development of a Flame Resistant Noncontaminating PVC Jacket for Coaxial Cable.** J. T. Losdholt and S. Ksufman, *29th Intl Wire and Cshle Symp Proc 1980*, Cberry Hill, New Jersey, November 18-20, 1980, pp 245-52.

**The Effect of Frictional Polymer on the Performance of Palladium Connector Contacts.** E. S. Sproles, Jr., *Proc IEEE Electron Compon Conf*, 1980, pp 317-23.

**Effects of the Lower Atmosphere on Radio Prolongation at Frequencies Above 1 GHz.** T. S. Chu, *URSI Symp Proc*, Lennorville, Cansds, Msy 26-30, 1980, pp 6.8.1-6.8.7.

**The Effects of Multipath Fading on 16 QAM Digital Radio.** W. W. Toy, *ICC Conf Rec*, 3 (June 1980), pp 52.1.1-52.1.5.

**Experimental and Theoretical Classification of Submicron MOSFETs.** W. Fichtner et al., IEDM Tech Dig, 1 (1980), pp 24-7.

**Generalized Box Medal for Electron Irradiated Teflon Foils.** B. Gruss et al., 1980 Ann Rep Conf Electrical Insulation and Dielectric Phenomena, Boston, Mass., October 1980, pp 313-20.

**High Resistivity Interfacial Layers Due to Compensation by Sulfur in (Al, Ga)As Devices.** P. J. Anthony, N. E. Schumaker, and J. L. Zilko, IEEE Electron Device Lett, EDL-2, No. 2 (February 1981), pp 46-9.

**Joint Carrier Phase and Symbol Timing Recovery for PAM Systems.** M. H. Meyers and L. E. Franks, IEEE Trans Commun, COM-28, No. 8 (August 1980), pp 1121-9.

**Lightwave Communications.** J. Simpson, Proc Intl Laser/Electro-Optics Training Conf, Wausau, Wisconsin, June 4-5, 1980, pp 105-23.

**Magnetic and Transport Properties of Transition-Metal Based Glassy Ribbons.** K. V. Roa et al., IEEE Trans Magn, MAG-16 (1980), pp 896-901.

**Magnetic Phase Diagram of Amorphous  $(\text{Fe}_x\text{Ni}_{1-x})_{-15}\text{P}_{16}\text{B}_6\text{Al}_3$  Alloy.** S. M. Bhagat, J. A. Geohogen, and H. S. Chen, Solid State Commun, 36 (1980), pp 1-5.

**A New Multifunctional Mass Termination Connector.** A. W. Carlisle and D. R. Frey, IEEE Trans Components, Hybrids Manuf Technol, CHMT-3, No. 4 (December 1980), pp 610-6.

**New Routing Capability—Direct Signaling.** M. A. McGrew and R. F. Frerking, Proc Natl Electron Conf, Chicago, Illinois, October 27-29, 1980, pp 159-63.

**Optical Modulators.** I. P. Kaminow, in *Encyclopedia of Science and Technology*, New York: McGraw-Hill, 1981, 5th ed.

**Overview of Telecommunications via Optical Fibers.** S. E. Miller, Proc IEEE, special issue on optical fibers, 68 (October 1980), pp 1173-4.

**Preliminary Study of a Two Wire Split Beam Connection.** E. Guancial and S. Das Gupta, IEEE Trans Compon, Hybrids Manuf Technol, 3 (December 1980), pp 654-8.

**Preparation of Glassy Metals.** H. S. Chen, H. J. Leamy, and C. E. Miller, Annu Rev Mater Sci, 10 (1980), pp 363-91.

**Quality Audit Using Adaptive Kalman Filtering.** M. S. Phadke, Intl Conf Am Soc Quality Control, San Francisco, California, May 27-29, 1981.

**Reliability of 0.87  $\mu\text{m}$  (Al,Ga)As Double Heterostructure Lasers with Ga(As,Sh) Active Layers.** P. J. Anthony et al., IEEE Electron Device Lett, EDL-2, No. 2 (February 1981), pp 50-2.

**Scanning the Issue.** S. E. Miller, Proc IEEE, special issue on optical communications, 68 (October 1980), p 1172.

**Switching Performance of a 12-GHz Pin Phase Shifter/Driver Module for Satellite Communication Phased Array.** N. Amitay and B. Glance, IEEE Trans Commun, COM-29, No. 1 (January 1981), pp 46-50.

**Thin Film Photoconductor Mounting Schemes for Picosecond Optical Detectors.** P. R. Smith, D. H. Auston, and A. M. Johnson, Rev Sci Instrum, 52, No. 1 (January 1981), pp 138-40.

**Threshold-Voltage Instability in MOSFETs Due to Channel Hot-Hole Emission.** R. B. Fan and R. C. Sun, IEEE Trans Electron Devices, ED-28 (January 1981), pp 83-94.

**Visibility of Borders: Separate and Combined Effects of Color Differences, Luminance Contrast, and Luminance Level.** F. S. Frome, S. L. Buck, and R. M. Boynton, J Opt Soc Am, 71, No. 2 (February 1981), pp 145-50.

## SOCIAL AND LIFE SCIENCES

**On the Depth of the Cyclopean Retina.** C. W. Tyler and B. Julesz, Exp Brain Res, 40 (1980), pp 196-202.

**Task—Oriented Approaches to Automatic Speech Recognition.** A. E. Rosenberg et al., Proc 1980 SAE Congress (February 1980), pp 1-9.

**Telecommunications in Earthquakes.** J. W. Foss and J. D. Scobee, Soc Econ Impact Earthquake Util Lifeline Conf, San Francisco, California, May 20, 1980. New York: Am. Soc. Civil Engineers, 1981, pp 134-59.

## MANAGEMENT AND LIFE SCIENCES

**Approximating the Admissible Set in Stochastic Dominance.** D. Goroff and W. Whitt, *J Econ Theor*, 23 (October 1980), pp 218-35.

**A Control Theory Approach for Modeling and Analysis of Economical Systems.** F. Aminzadeh, *Proc IEEE Control System Soc, NJ Section*, Murray Hill, New Jersey.

## Errata

I. W. Sandberg, "On Newton-Direction Algorithms and Diffeomorphisms," *B.S.T.J.*, 60, No. 3 (March 1981), pp. 339-346.

On page 345, replace the first sentence of Theorem 3 with: Let  $B = R^n$ , and let  $f$  be a continuously differentiable map of  $R^n$  into  $R^n$  such that  $f'$  is Lipschitz on bounded subsets of  $R^n$ .

K. Nassau, "The Material Dispersion Zero in Infrared Optical Waveguide Materials," *B.S.T.J.*, 60, No. 3 (March 1981), pp. 327-337.

In eq. 2 (page 328), for  $d^2$  read  $d^3$ .